US006300863B1

(12) **United States Patent**
Cotichini et al.

(10) **Patent No.:** **US 6,300,863 B1**
(45) **Date of Patent:** *Oct. 9, 2001

(54) **METHOD AND APPARATUS TO MONITOR AND LOCATE AN ELECTRONIC DEVICE USING A SECURED INTELLIGENT AGENT VIA A GLOBAL NETWORK**

(75) Inventors: **Christian Cotichini; Fraser Cain, both of Vancouver; David G. Ashworth, North Vancouver; Peter Michael Bruce Livingston, Pitt Meadows; Gabor Solymar, Stittsville, all of (CA)**

(73) Assignee: **Absolute Software Corporation, Vancouver (CA)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/047,030**

(22) Filed: **Mar. 24, 1998**

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/871,221, filed on Jun. 9, 1997, which is a continuation-in-part of application No. 08/826,098, filed on Mar. 24, 1997, which is a continuation-in-part of application No. 08/558,432, filed on Nov. 15, 1995, now Pat. No. 5,764,892, which is a continuation-in-part of application No. 08/339,978, filed on Nov. 15, 1994, now Pat. No. 5,715,174, which is a continuation-in-part of application No. 08/558,432, which is a continuation-in-part of application No. 08/339,978.

(51) Int. Cl.^{7} G06F 7/00

(52) U.S. Cl. 340/5.8; 340/426; 340/539; 340/10.42; 714/45; 709/200; 709/217; 709/219

(58) Field of Search 340/825.34, 426, 340/539, 10.42; 714/45; 709/200, 217, 219; 342/457

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,764,892 * 6/1998 Cain et al. 340/825.34
5,778,367 * 7/1998 Wesinger, Jr. et al. 709/218
5,802,280 * 9/1998 Cotichini et al. 709/200

* cited by examiner

Primary Examiner—Brian Zimmerman
Assistant Examiner—Yves Dalencourt
(74) *Attorney, Agent, or Firm*—Liu & Liu LLP

(57) **ABSTRACT**

A system for locating and monitoring electronic devices utilizing a security system that is secretly and transparently embedded within the software, firmware, or hardware of a computer. This security system initiates the client computer to periodically and conditionally call a host system to provide unique identifying indicia and location information. In one embodiment, the security system calls the host through a public switched telephone network (PSTN) and transmits the indicia in encoded form. In an alternative embodiment, which may be incorporated concurrently with the PSTN application, the security system calls the host system through the Internet and provides the host with indicia encoded within the DNS query sent. The host system is able to identify the calling computer from the indicia and is able to physically locate the computer through either caller identification or by referencing the Internet links which were used to connect the calling computer with the host system.

94 Claims, 39 Drawing Sheets